

What is claimed is:

1 1. A method of performing channel hashing in a communication system, the
2 method comprising a step of:

3 transmitting an overhead message including a list of frequency assignments to at least
4 one receiving side through a common channel, wherein the overhead message includes a first
5 field, the first field containing information indicating whether the frequency assignment list
6 includes at least one frequency assignment allowing packet data support.

1 2. The method of claim 1, wherein the overhead message of said transmitting
2 step includes a second field, the second field containing information indicating whether each
3 frequency assignment in the frequency assignment list allows packet data support.

1 3. The method of claim 1, wherein the overhead message is an extended CDMA
2 channel list message.

1 4. The method of claim 1, wherein the communication system is a base station
2 and the at least one receiving side is a mobile station.

1 5. The method of claim 1, wherein the common channel is a forward common
2 channel.

1 6. The method of claim 1, wherein the common channel is one selected from
2 the group consisting of a forward paging channel and a forward broadcast control channel.

1 7. A method of performing channel hashing in a communication system, the
2 method comprising steps of:

3 receiving through a common channel an overhead message including a CDMA
4 channel list containing a plurality of frequency assignments;

5 reading first and second fields of the received overhead message, the first field
6 containing information indicating whether at least one frequency assignment allowing packet
7 data support is included in the plurality of frequency assignments and the second field
8 containing information indicating whether each frequency assignment of the plurality of
9 frequency assignments allows packet data support;

10 formulating a first subset of channels based on the information of the first and second
11 fields of the received overhead message; and

12 choosing as a service channel a frequency assignment of the first subset of channels.

1 8. The method of claim 7, wherein the common channel is a forward common
2 channel.

1 9. The method of claim 8, wherein the forward common channel is one selected
2 from the group consisting of a forward paging channel and a forward broadcast control
3 channel.

1 10. The method of claim 7, wherein the overhead message is an extended CDMA
2 channel list message.

1 11. The method of claim 7, wherein the first subset of channels is formulated by
2 removing from the CDMA channel list all frequency assignments that do not allow packet

3 data support, when the information of the first and second fields indicates packet data support.

1 12. The method of claim 11, further comprising steps of:

2 determining whether a base station and a mobile station both provide special system
3 support;

4 formulating a final subset of channels by removing from the first subset of channels
5 all frequency assignments that do not allow the special system support, if it is determined that
6 the base station and mobile station both provide the special system support; and

7 randomly selecting one service frequency assignment from the frequency
8 assignments of the final subset of channels.

1 13. The method of claim 11, further comprising the steps of:

2 determining whether a base station and a mobile station both provide special system
3 support; and

4 randomly selecting one service frequency assignment from the frequency
5 assignments of the first subset of channels, if it determined that one of the base station and the
6 mobile station does not provide the special system support.

1 14. The method of claim 7, further comprising the steps of:

2 determining whether a base station and a mobile station both provide special system
3 support, if the information of the first and second fields indicates no packet data support; and

4 randomly selecting one service frequency assignment from the frequency
5 assignments of the first subset of channels,

6 wherein the first subset of channels is formulated by removing from the frequency
7 assignment list all frequency assignments that do not provide the special system support, if it

8 is determined that the base station and mobile station both provide the special system support.

1 15. The method of claim 7, further comprising the steps of:
2 determining whether a base station and a mobile station both provide special system
3 support, if the information of the first and second fields indicates no packet data support; and
4 randomly selecting one service frequency assignment from the frequency assignment
5 list, if it is determined that one of the base station and the mobile station does not provide the
6 special system support.

1 16. The method of claim 7, wherein the communication system is a mobile
2 station.

1 17. A method of performing channel hashing in a communication system, the
2 method comprising steps of:
3 receiving an overhead message, sent through a forward common channel from a base
4 station to a mobile station, the overhead message including at least one field and a CDMA
5 channel list;
6 determining in the mobile station whether the base station and mobile station both
7 provide packet data support, based on the at least one field of the received overhead message;
8 formulating a first subset of channels according to a result of said determining step;
9 and
10 randomly selecting one frequency assignment from the first subset of channels.

1 18. The method of claim 17, wherein the overhead message is an extended
2 CDMA channel list message.

1 19. The method of claim 17, wherein the first subset of channels is formulated by
2 removing from the CDMA channel list all frequency assignments that do not allow packet
3 data support, if the base station and mobile station are both determined to provide packet data
4 support.

1 20. The method of claim 19, further comprising the steps of:
2 determining in the mobile station whether the base station and mobile station both
3 provide special system support;
4 formulating a final subset of channels by removing from the first subset of channels
5 all frequency assignments that do not provide the special system support, if it is determined
6 that the base station and mobile station both provide the special system support; and
7 randomly selecting one service frequency assignment from the final subset of
8 channels.

1 21. The method of claim 20, wherein the final subset of channels is formulated
2 by selecting the selected frequency assignments of the first subset of channels if it is
3 determined that one of the base station and mobile station does not provide the special system
4 support.

1 22. The method of claim 17, wherein the at least one field of the received
2 overhead message includes at least one of a PDCH_SEL_INCL field having information
3 indicating whether at least one frequency assignment allowing packet data support is included
4 in the received overhead message and a PDCH_HASH_IND field having information
5 indicating whether each frequency assignment of the CDMA channel list allows packet data

6 support.

1 23. The method of claim 22, wherein the PDCH_SEL_INCL field and the
2 PDCH_HASH_IND field each have a length of one bit.

1 24. The method of claim 23, wherein, if the PDCH_SEL_INCL field is set to a
2 first binary value, the mobile station determines that the base station provides packet data
3 support and that the overhead message includes the at least one frequency assignment
4 allowing packet data support and wherein, if the PDCH_SEL_INCL field is set to a second
5 binary value, the mobile station determines that the base station does not provide packet data
6 support and that the overhead message does not include the at least one frequency assignment
7 allowing packet data support.

1 25. The method of claim 17, further comprising steps of:
2 determining in the mobile station whether the base station and mobile station both
3 provide special system support, if it is determined that one of the base station and mobile
4 station does not support the packet data channel;
5 formulating a final subset of channels by removing from the first subset of channels
6 all frequency assignments that do not provide special system support, if the base station and
7 mobile station both provide the special system support; and
8 choosing as a service channel a frequency assignment of the final subset of channels.

1 26. The method of claim 17, further comprising the steps of:
2 determining in the mobile station whether the base station and mobile station both
3 provide special system support, if it is determined that one of the base station and mobile

4 station does not provide packet data support; and
5 randomly selecting one service frequency assignment from the CDMA channel list, if
6 it is determined that one of the base station and mobile station does not provide the special
7 system support.

1 27. The method of claim 17, wherein the forward common channel is one
2 selected from the group consisting of a forward paging channel and a forward broadcast
3 control channel.

1 28. An overhead message comprising:
2 a first field containing information indicating whether a list of frequency assignments
3 includes at least one frequency assignment allowing packet data support; and
4 a second field containing information indicating whether each frequency assignment
5 of the frequency assignment list allows packet data support.

1 29. The overhead message of claim 28, wherein the first field is a
2 PDCH_SEL_INCL field and the second field is a PDCH_HASH_IND field.

1 30. The overhead message of claim 29, wherein the PDCH_SEL_INCL field and
2 the PDCH_HASH_IND field each have a length of one bit.

1 31. The overhead message of claim 30, wherein the PDCH_SEL_INCL field is
2 set to a first binary value, if the frequency assignment list includes at least one frequency
3 assignment allowing packet data support, and is otherwise set to a second binary value.

1 32. The overhead message of claim 30, wherein the PDCH_HASH_IND field is
2 set to a first binary value, if there is at least one frequency assignment allowing packet data
3 support, and is otherwise set to a second binary value.

1 33. The overhead message of claim 28, further comprising:
2 a third field containing information indicating whether the at least one frequency
3 assignment in the frequency assignment list provides special system support; and
4 a fourth field containing information indicating whether the each frequency
5 assignment of the frequency assignment list provides the special system support.

1 34. The overhead message of claim 33, wherein the third field is an
2 RC_QPCH_SEL_INCL field and the fourth field is an RC_QPCH_HASH_IND field.

1 35. The overhead message of claim 34, wherein the RC_QPCH_SEL_INCL field
2 and the RC_QPCH_HASH_IND field each have a length of one bit.

1 36. The overhead message of claim 35, wherein the RC_QPCH_SEL_INCL field
2 is set to a first binary value, if the at least one frequency assignment provides the special
3 system support, and is otherwise set to a second binary value.

1 37. The overhead message of claim 35, wherein the RC_QPCH_HASH_IND
2 field is set to a first binary value, if the each frequency assignment of the frequency
3 assignment list provides the special system support, and is otherwise set to a second binary
4 value.

1 38. The overhead message of claim 28, wherein the overhead message is an
2 extended CDMA channel list message.